

**2014 ANNUAL REPORT
AUTOMATED TRAFFIC ENFORCEMENT ON
PRIMARY HIGHWAYS IN DES MOINES**



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Des Moines Police Department

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Address the impact of automated traffic enforcement technology on reducing speeds and/or number of red light running violations at sites being monitored.

Red light violations since July, 2011:

Red Light Locations	2011 (July-Dec)	2012	2013	2014
E 15 th & Maple	950	1054	493	456
MLK & School	1633	5040	6146	5687

**Data provided from Gatso Inc., and are based on Citations Resulted from Captured Violations by Approach.*

Intersections originally selected for camera enforcement based upon:

- High incidence of crashes at both intersections
 - The crash data were taken from DOT's 2005-2009 Statewide Intersection Safety Improvement Candidate Location List.
 - These two intersections were redesigned by the Iowa Department of Transportation. This took place prior to implementation of the ATE cameras.

East 15th & Maple

- The camera at this intersection has been effective at reducing the number of violators.
 - **Over a 50% reduction** from 2012 to current 2014.
- A goal is a continued reduction in red light violations at this intersection. The continued reduction of accidents and violations vs. high traffic volume indicates cameras are effective.
- A report dated 03-17-15, from the Department of Transportation provided findings and evaluation of this intersection. The resulting action was to continue operation of red light camera at this location.

MLK & School

- Red light violations continue to be problematic. Coordination with the DOT is to enhance the visibility of the signage in an effort to reduce the number of red light violations at this intersection.
- This red light camera captures traffic travelling eastbound through the intersection and also includes motorists who are making a right turn (southbound) onto Martin Luther King Jr. Roadway.
 - Right turns contribute to the number of violations at this location.
 - Limited sight distance is a concern due to bridge overpass obstruction.
 - There are instances where motorists frequently do not stop at this intersection prior to making a right turn.
 - Motorists must be travel at 11 mph or above during the right turn to initiate a violation by the ATE camera at this location.

- The number of violations at this intersection indicates the need for continued enforcement at this location. Coordination with DOT to add signage to enhance awareness.
- The goal is to reduce red light violations at this intersection.
- A report dated 03-17-15, from the Department of Transportation provided findings and evaluation of this intersection. The resulting action was to continue operation of red light camera at this location.

Identify the number and type of collisions at the sites being monitored, listing comparison data for before-and-after years. If the system includes intersection enforcement, only the monitored approaches should be included in the evaluation.

The table below represents the total number of accidents per year at:

- E 15th and Maple (NB),
- MLK & School St (EB)
- I-235 EB between 4200 block and 4700 block (5.5 to 4.8 mile marker).

Crashes							
Location	2009	2010	2011 Before Cameras	2011 After Cameras	2012	2013	2014
E 15 th & Maple St. (NB)	16	10	4	5	5	6	1
MLK & School St. (EB)	16	12	4	6	6	10	8
I-235 / 4200-4700 Block (EB)	5	9	2	2	3	6	2

**2014 DOT crash data were unavailable at the time of this report. The data reflects crash data recorded by DMPD and the City of Des Moines.*

- The data represent the total number of crashes at these intersections for periods before ATE's and periods following ATE implementation.
- The crash data in 2011 is divided as a result of ATE implementation.
 - E 15th & Maple and MLK & School
 - The number of crashes in "2011 before cameras" (January through June).
 - The number of crashes in "2011 after cameras" (July to December).
 - On I-235 between the 4700 and 4200 block (4.8 and 5.5 mile marker)
 - The number of crashes in "2011 before cameras" (January to September).
 - The number of crashes in "2011 after cameras" (October to December 2011).
- When reviewing the data, it is important to note the reduction of crashes at **E 15th and Maple (NB)** after the implementation of the red light cameras.
- The number of crashes at **MLK and School St (EB)** decreased as well after the implementation of cameras.
 - In 2013 the number of crashes rose to 10 at the **MLK/School** intersection, indicating a continued need for enforcement. Measured improvement again in 2014 with a reduction to 8, from 10 in 2013.
- According to DOT data, the highest volume of traffic on Iowa's roadways is on I-235 in Des Moines between 56th and 42nd Street. This location is where the I-235 speed cameras are utilized.
 - According to the DOT data, the average daily traffic on I-235 in 2012 was 82,900 vehicles per day. This amounting to approximately 30,258,500 vehicles per year.

○ **AVERAGE NUMBER OF CRASHES**

Location	Average number of crashes before cameras 2009-2011	Average number of crashes after cameras 2011-2014
E 15 th & Maple	12	4.8
MLK & School	16.8	8.6
I-235 EB between the 4200-4700 block (EB)	5.8	3.7

- The average number of crashes after cameras has decreased significantly at each of these three locations.
 - **60% reduction in crashes on E15th / Maple.**
 - **49% reduction in crashes on MLK / School.**
 - **37% reduction in crashes on I-235.**

TYPES OF CRASHES - E 15th & Maple St

Year	Number of Crashes	Crash Types	Red Light Violations Issued
2009	16	12 Ran Light / Broadside 1 Rear End 1 Sideswipe 2 Unk/Other	N/A
2010	10	5 Ran Light / Broadside 3 Rear End 2 Sideswipe 0 Unk/Other	N/A
2011* Before Camera	4	2 Ran Light / Broadside 1 Rear End 1 Sideswipe 0 Unk/Other	N/A
2011* After Camera	5	3 Ran Light / Broadside 0 Rear End 0 Sideswipe 2 Unk/Other	950
2012	5	2 Ran Light / Broadside 2 Rear End 0 Sideswipe 1 Unk/Other	1054
2013	6	4 Ran Light / Broadside 1 Rear End 1 Sideswipe 0 Unk/Other	493
2014	1	1 Ran Light / Broadside 0 Rear End 0 Sideswipe 0 Unk/Other	456

*2014 DOT crash data were unavailable at the time of this report. The data reflects crash data recorded by DMPD and the City of Des Moines.

- The total number of crashes caused by red light violations has decreased significantly since the implementation of red light cameras at E 15th and Maple St.
- The reduction of crashes from 2013 to 2014 can be attributed to a reduction in violations.

TYPES OF CRASHES - Martin Luther King & School St

Year	Number of Crashes	Crash Types	Red Light Violations Issued
2009	16	10 Ran Light / Broadside 1 Rear End 1 Sideswipe 4 Unk/Other	N/A
2010	12	9 Ran Light / Broadside 0 Rear End 0 Sideswipe 3 Unk/Other	N/A
2011* Before Camera	4	3 Ran Light / Broadside 0 Rear End 1 Sideswipe 0 Unk/Other	N/A
2011* After Camera	6	5 Ran Light / Broadside 1 Rear End 0 Sideswipe 0 Unk/Other	1633
2012	6	2 Ran Light / Broadside 2 Rear End 1 Sideswipe 1 Unk/Other	5040
2013	10	8 Ran Light / Broadside 0 Rear End 2 Sideswipe 0 Unk/Other	6146
2014	8	6 Ran Light / Broadside 1 Rear End 1 Sideswipe 0 Unk/Other	5687

*2014 DOT crash data were unavailable at the time of this report. The data reflects crash data recorded by DMPD and the City of Des Moines.

- The total number of crashes caused by red light running decreased after the implementation of red light cameras at Martin Luther King Jr. and School St.
- The number of crashes and violations increased in 2013, but decreased in 2014.

- A slight reduction of crashes, from 2013 to 2014, can be attributed to a reduction in violations. The increased violations at this location, indicates the need for continued enforcement at this location.
- The Des Moines Police Department continues to work with the DOT to enhance the visibility of additional signage in an effort to decrease the number of red light violations and crashes at this intersection. DMPD has acquired additional signage which will be installed By DOT in the near future.

TYPES OF CRASHES – I-235 (4700 block to 4200 block EB)

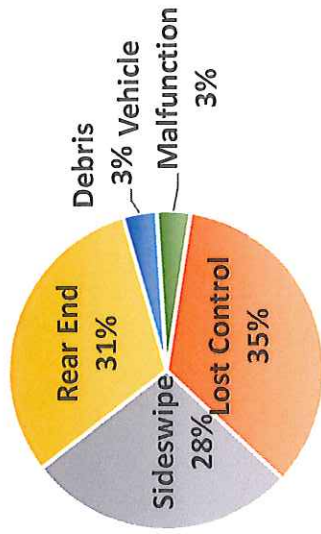
Year	Number of Crashes	Crash Types	Speed Violations Issued
2009	5	2 Lost Control 2 Rear End 1 Sideswipe 0 Unk/Other	N/A
2010	9	2 Lost Control 4 Rear End 3 Sideswipe 0 Unk/Other	N/A
2011* Before Camera	2	0 Lost Control 2 Rear End 0 Sideswipe 0 Unk/Other	N/A
2011* After Camera	2	1 Lost Control 0 Rear End 1 Sideswipe 0 Unk/Other	19486
2012	3	2 Lost Control 0 Rear End 1 Sideswipe 0 Unk/Other	36202
2013	6	3 Lost Control (One Fatality) 0 Rear End 1 Sideswipe 2 Unk/Other	42156
2014	2	0 Lost Control 1 Rear End 1 Sideswipe 0 Unk/Other	44602

**2014 DOT crash data were unavailable at the time of this report. The data reflects crash data recorded by DMPD and the City of Des Moines.*

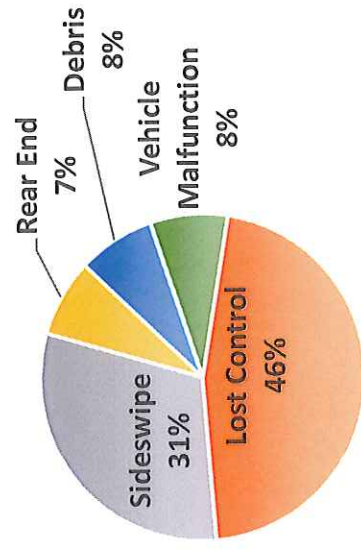
- The total number of crashes on I-235 in this area (4700 block to 4200 block) have decreased since the implementation of our camera program.
- Crashes still remain a concern for this location.

- **Roadway characteristics is the primary reason why the cameras were chosen for this location on I-235.**
 - The roadway in this area narrows particularly the left shoulder, nearest the median barrier, as the roadway begins a series of curves.
 - These conditions create a safety concern for traditional traffic enforcement by police officers.
 - Crash data supports the need for continued ATE enforcement in this particular high-risk, high traffic flow location.
- On a report dated 03-17-15, the Department of Transportation provided findings of this portion in I-235. The resulting action was to remove the cameras at this location by April 17, 2015.
- The City of Des Moines has appealed this decision. The cameras will remain active during the appeal process.

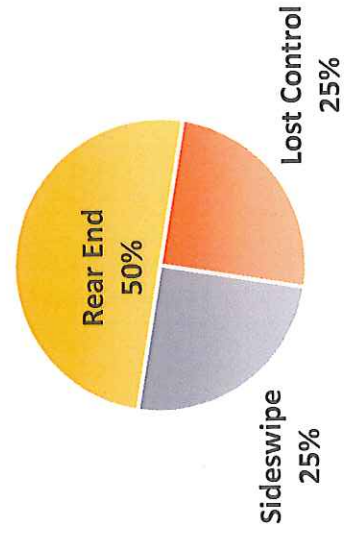
Causation of Crashes I-235 4200/4700 Block (5.5 to 4.8 MM) EB 2009-2014

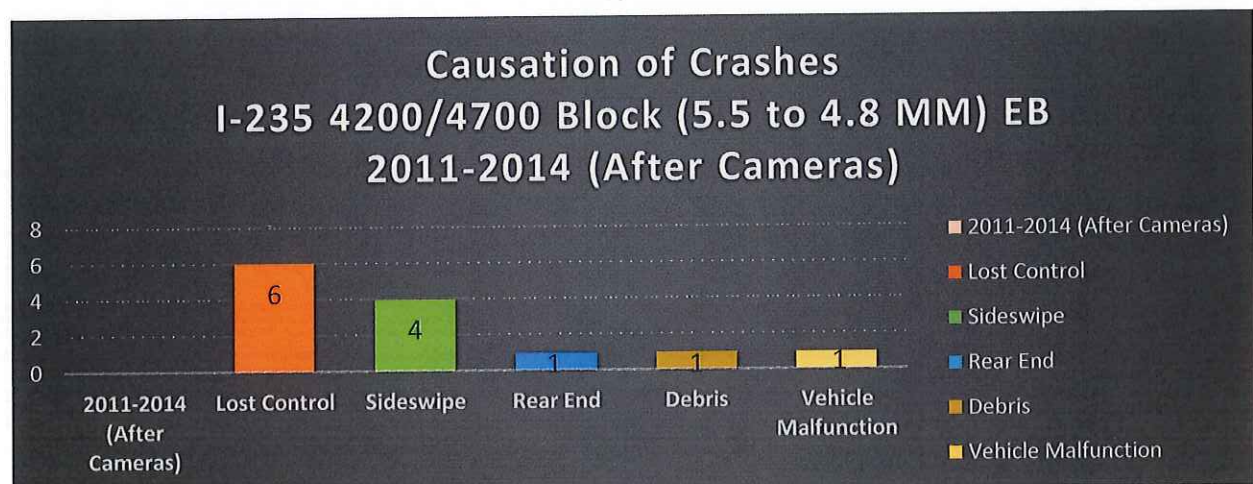
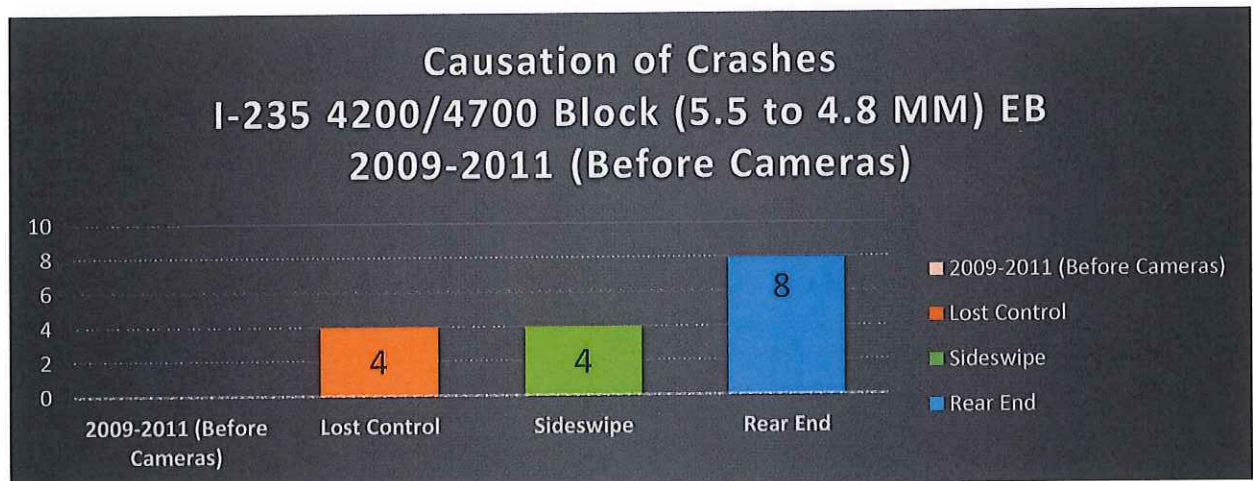
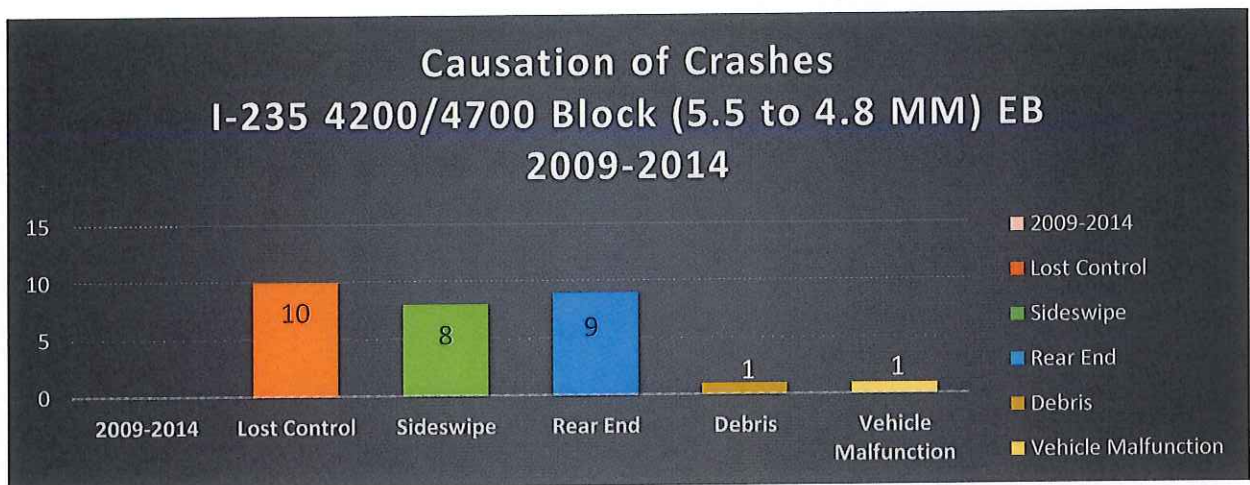


Causation of Crashes I-235 4200/4700 Block (5.5 to 4.8 MM) EB 2011-2014 (After Cameras)



Causation of Crashes I-235 4200/4700 Block (5.5 to 4.8 MM) EB 2009-2011 (Before Cameras)





Evaluate and document the automated traffic enforcement system's impact on addressing the critical traffic safety issue(s) listed in the justification report if a justification report was part of the system's initial approval process.

- The intersections (MLK and School St., and E 15th and Maple) chosen for red light cameras were selected based on numbers of high, right angle / broadside crashes.
- The 2005-2009 Statewide Intersection Safety Improvement Candidate Location List, identified the frequency rank of Martin Luther King and School St was #1 and E 15th and Maple St was #2.
- Using this same report for the years 2008-2012 (a portion of which was after the implementation of our camera program in July 2011, as was all of 2012), the frequency rank at the ML King and School location dropped to #2 and the E 15th and Maple location dropped to #10.
- The 2009-2013 Statewide Intersection Safety Improvement Candidate Location List, provided by the DOT, currently shows a continued decline as MLK and School dropped to a ranking of #5 and E15th and Maple ranking dropped to #23.
- The frequency ranking takes into account the severity and frequency of crashes and crash types.
 - The attributes that were considered were volume of traffic, controlled intersection, construction standards and future plans for intersection reconfiguration.
- The frequency ranking at these two intersections continue to reduce in recent years.
- High risk locations are those where the safety of citizens or law enforcement officers would be at higher risk through conventional enforcement methods.
- As previously stated, the cameras affixed on I-235 are a safer alternative than traditional enforcement.
 - The roadway in this area narrows particularly the left shoulder, nearest the median barrier, as the roadway begins a series of curves.
 - This makes traditional speed enforcement hazardous for police officers at this location.
- Due to the high-risk characteristics that impact safe traditional enforcement at this location, the I-235 cameras are an effective tool to our enforcement efforts.
- There were 44,602 speed citations issued in 2014, which demonstrates that these cameras continue to be a needed resource for law enforcement for motorist safety, deterrence and slowing traffic.
- **The cameras provide the Des Moines Police Department with an avenue to enforce speed at this location without endangering the lives of citizens or law enforcement officers.**

Provide the total number of citations issued for each calendar year the system has been in operation.

Citations Issued	2011	2012	2013	2014
Red Light Intersections	2583 (July 2 – Dec 31)	6094	6639	6143
I-235 4700 block Speed	19486 (Sep 27-Dec 31)	36202	42156	44602

Data provided from Gatso Inc., and include the Issued Citations by Approach.

Mobile Speed Camera:

- **The mobile unit does not deploy to primary highways within the City of Des Moines, in compliance with the Iowa DOT guidelines, which were established in June, 2012.**

Certify that the calibration requirements of sub-rule 144.6 (4) have been met.

- The yearly speed calibration verification (of each lane of I-235) was conducted on 7-10-14 by GATSO USA.
- DOT calibration requirement is quarterly.
- DMPD calibration verification were conducted:
 - January 29, 2014
 - April 3, 2014
 - July 16, 2014
 - August 19, 2014
 - September 17-26, 2014
 - October 9, 2014
 - November 6, 2014
 - December 3, 2014
 - January 13, 2015
 - February 10, 2015
 - March 10, 2015
 - April 9, 2015
- DMPD Police Traffic units, used to conduct this test, are outfitted with a speed sensor.